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COAL IN ATCHISON COUNTY, KANSAS.

By E. B. KNERR.

In August, 1893, an interesting vein of coal was found exposed in the bed of a narrow ravine between two bluffs facing the Missouri river, about two miles south of the city of Atchison. At the point of discovery the vein measured 16 inches, and on trial the coal was at once recognized to be of good quality. Within a few days hundreds of people visited the spot, and as almost every one carried back with him some of the coal for exhibition and trial, a colored man by the name of O'Connel, who had formerly mined coal at Leavenworth, was encouraged to open up the vein. He brought a few wagon-loads to the city and paraded the streets.

Some months after this, the Atchison horse-car line was abandoned preparatory to the introduction of an electric system, and the car drivers were thrown out of employment. One of their number, Mr. Ada, conceived the idea of working the coal field south of town, and with the help of several of the former car drivers, with shovels and picks and wheelbarrows, they went to work. The coal is so favorably situated that their mine, now known as the Ada mine, has paid all its expenses from the very beginning in coal taken out.

Shortly after this enterprise was undertaken, the Donald Bros. dry-goods firm opened up the vein in the bluff about a half mile south of the Ada mine. The Donalds at once invested considerable capital, employed a body of expert miners and made quite an extensive entry. They have now been at work less than two years, but have removed the coal from an area of more than 500,000 square feet. At the present time they are operating their mine with electric machinery.

This vein of coal varies in thickness from 16 to 20 inches, and is very hard for a bituminous coal. A chemical analysis gives the following results:

| | |
|--------------------|--------|
| Water | 3.43 |
| Volatile gas | 30.02 |
| Fixed carbon | 55.79 |
| Ash | 10.76 |
| | <hr/> |
| | 100.00 |

The specific gravity of the coal is 1.17. The heat units were calculated to be 6642 gram calories. The coal contains very little sulphur, and this is combined as calcium sulphate, and therefore is unobjectionable. There is no iron sulphide, pyrite, mixed up with the coal. This is further proven by the fact that the ash is a light gray—almost white. Iron in the coal would color the ash reddish. The objectionable form of sulphur in coal is as iron sulphide, for when this is present it readily combines with the fire grates of stoves, etc., burning them out. Hence it is fortunate that pyrite is absent from Atchison coal.

The natural facilities for mining this stratum of coal are the best, with the exception that the strata of soapstone above and below the coal are very hard. At the Donald mine the vein lies about 30 feet above the water of the Missouri river, and about 15 feet above the road bed of the Missouri Pacific railroad. In the process of mining, the coal does not have to be lifted

a foot. It is placed on the low trucks and drawn out by small mules, weighed and dumped into the cars.

After the discovery of this vein other localities were reported at various places in Atchison and Doniphan counties, and the traditions of former coal mining in the neighborhood were recalled. I have examined several of these localities, and am convinced that, with possibly an exception in Doniphan county, they belong to a different stratum entirely. On the state grounds of the Soldiers' Orphans' Home, about three miles north of Atchison, there is a coal outcrop measuring six to eight inches. This stratum is about 150 feet above the Donald vein. I have traced it to a point about five miles south of the orphans' home, where it thins out to only a half inch in thickness. This smaller vein is much softer than the other, and is the one to which the traditions of Atchison coal mining refer. It is curious to observe how these traditions have magnified the thickness of the vein. It was a two-foot vein when worked 30 years or more ago, according to traditions. I have opened up two of the former drifts and find that the stratum measures only eight inches at the most, and in this fact we find the explanation of the abandonment of these first mining efforts.

Encouraged by these traditions, a company was formed in Atchison some years ago to prospect for coal. This company did a very foolish thing in selecting a locality for their prospecting. They did not begin operations in the native rocks of the bluffs, but went off near to the Missouri river and sunk a hole some 800 feet. Of course they missed the Donald vein, for it had been removed from where they were working by the Missouri river. Had they operated closer to the bluff, beginning in bed rock, the 18-inch vein would have been struck, and in all probability Atchison would have rivaled Leavenworth by this time as a coal-mining locality.